UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,576	05/17/2006	Herbert Spindler	97469	5668

24628 7590 11/13/2009

Husch Blackwell Sanders, LLP
Husch Blackwell Sanders LLP Welsh & Katz
120 S RIVERSIDE PLAZA
22ND FLOOR
CHICAGO, IL 60606

EXAMINER	
SMITH, JENNIFER A	

ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
11/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,576	SPINDLER ET AL.	
	Examiner	Art Unit	
	JENNIFER A. SMITH	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 September 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-20* is/are pending in the application.

4a) Of the above claim(s) *19 and 20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/21/2009, 9/21/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Application

Claims 19-20 remain withdrawn from consideration.

Claims 1-11 remain cancelled.

Claims 12-18 are presented for examination.

Information Disclosure Statements

The information disclosure statements (IDS) submitted on 9/21/2009 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements have been considered by the examiner.

Claim Objections

The objection to claims 13-18 is withdrawn in view of Applicant's amendments to the claims, however the Examiner notes the language of claims 13-18 is confusing and the claims are often grammatically incorrect. Appropriate action is requested to improve the readability of the claims.

Claim Rejections - 35 USC § 112, 2nd Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 14 recites the limitation "the stripping container" in column 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rickard (US Patent No. 4,076,515) in view of Jonninen (US Patent No. 6,010,551).

In regard to claim 12, the Rickard reference discloses a method for extracting nitrogen fertilizer from organic waste water, for sanitizing the waste and reducing

emissions by thermal treatment of the waste water at a pressure below atmospheric pressure (33 to 94 KPa) and at temperatures ranging from 40 to 90°C (see Abstract, claim 1; column 3, lines 31-36; column 6, lines 35 and 36). Thickening agents are added and water is removed (see Figure 1). Rickard does not teach the utilization of acids or lyes in the reaction vessel. The materials which enter the reactor (24) in Figure 1 are sludge, an alkali material (lime), and steam. Shown in Figure 2, the emitted gas, which contains carbon dioxide and ammonia, is then cooled (see column 6, lines 2-5; column 7, line 64 to column 8, line 8) in condenser (62) and is then introduced into a separate reactor (74) and comes into contact with an aqueous absorption agent (see column 5, lines 2-7) and the nitrogen fertilizer thus produced is removed.

The Rickard reference fails to teach feeding the excess gas back into the process.

The Jonninen reference is drawn to a method for accelerating biodegradation of organic matter. The gas that is collected from the organic matter is sent out of the stack and is collected. The collected gas is circulated through a scrubber to remove built up ammonia and particulates in the gas. The gas is cooled and a portion of the collected gas is exchanged with a portion of a replacement gas, having a higher oxygen content, to maintain the oxygen content of the gas. The cooled and re-oxygenated gas is then recirculated through the stack in a substantially closed loop system (see column 2, lines 3-26).

One of ordinary skill in the art, at the time of Applicants' invention would have been motivated to recirculate gas from the scrubbing operation back into the process in a closed look system as described by Jonninen because this guarantees the expenditure of less energy in order to ensure the circulation of air between the desorption part and the absorber part of the process. Feeding the gas back into the process ensure precise control of the content of the components in the gas (see column 2, lines 28-34). The excess gas can be recirculated and retreated in the scrubbing process ensuring full absorption of the carbon dioxide and ammonia components.

In regard to claim 13, the Jonninen reference teaches the gas that is passed through the scrubber is then driven up through a series of ducts (14) and through the stack (12) which contains organic material and is recirculated through a closed loop system [See Column 3, lines 8-18 or Figure 1].

In regard to claim 14, differences in temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indication such a temperature is critical. Rickard shows in Figure 2, the emitted gas is cooled (see column 6, lines 2-5; column 7, line 64 to column 8, line 8) in condenser (62) and is then introduced into a separate reactor (74) and comes into contact with an aqueous absorption agent (see column 5, lines 2-7). Furthermore, he claim has been rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

In regard to claim 15, the Jonninen reference teaches the gas that is passed through the scrubber is then driven up through a series of ducts (14) and through the stack (12) which contains organic material and is recirculated through a closed loop system [See Column 3, lines 8-18 or Figure 1]. The arrows (18) show the flow of the gas outside the stack.

In regard to claim 16, Rickard teaches a sludge as the waste product. Sewage sludge is produced from the treatment of wastewater and raw primary sludge consists mostly of fecal mater. "Biological digestion under anaerobic conditions" represents a process in which microorganisms break down biodegradable material in the absence of oxygen [See Column 1, lines 11-32].

In regard to claim 17, Rickard shows in Figure 1, the digested sludge (18) is dewatered further by a vacuum filter process (20). The supernatant and a portion of the filtered sludge are directed into the reactor (24) [See Column 4, lines 42-48]. The output liquids emerging from my process are essentially odor-free and have a relatively low nitrogen concentration. These may be returned to the wastewater treatment operations without adverse effect on these processes [See Column 3, lines 54-60]. The sludge solids which remain after filtration may be disposed of by incineration, land filling, composting or drying for sale as a soil conditioner [See Column 1, lines 43-45].

In regard to claim 18, Rickard teaches absorbing liberated gases in an acid such as sulfuric acid (a sulfate) [See Column 5, lines 1-7]. The gases are brought into contact with the acid in the collection container (crystallizer). They are stirred by an agitator and the concentration of the ammonium salt formed increases to the saturation point. When this occurs, the solid ammonium salt – in this case ammonium sulfate - begins to crystallize [See Column 6, lines 43-55].

Response to Arguments

Applicant's arguments filed 09/02/2009 have been fully considered but they are not persuasive.

First, Applicants argue Rickard does not teach the new limitations to claim 12, specifically the use of a second vessel. This argument is not persuasive. In the Rickard reference, the materials which enter the reactor (24) in Figure 1 are sludge, an alkali material (lime), and steam. Shown in Figure 2, the emitted gas, which contains carbon dioxide and ammonia, is then cooled (see column 6, lines 2-5; column 7, line 64 to column 8, line 8) in condenser (62) and is then introduced **into a separate reactor** (74) and comes into contact with an aqueous absorption agent (see column 5, lines 2-7) and the nitrogen fertilizer thus produced is removed. Applicants' further arguments drawn to the single stage process in the Rickard patent are moot in view of the new rejection presented above.

Second, Applicants argue the transformation into gaseous ammonia according to Rickard is only possible due to the addition of lime. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a process without the addition of an alkaline component) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The Rickard reference discloses the addition an alkaline reagent such as lime (CaO) but it is noted that Applicants claim only excludes acids and lyes (caustic hydroxides).

Third, Applicants argue the prior art reference doe not teach the liberation of both CO_2 and NH_2 taking place in a single step without the addition of acids or lyes. However, the present invention does not limit the liberation of gases to a single step. "The escaping gas" is shown exiting the anaerobic digester in Figure 1 of the Rickard reference. Furthermore, the references do not teach the addition of acids or lyes.

Conclusion

Claim 12-18 are rejected.

No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. SMITH whose telephone number is (571)270-3599. The examiner can normally be reached on Monday - Friday, 9:30am to 6:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorgengo can be reached on (571)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENGO/
Supervisory Patent Examiner, Art Unit 1793

Jennifer A. Smith
November 5, 2009
Art Unit 1793

JS